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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/819,291	03/28/2001	Kiyoshi Ozaki	1508.65377	6868

7590 07/10/2003

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EXAMINER

NGUYEN, HOAN C

ART UNIT PAPER NUMBER

2871

DATE MAILED: 07/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n N .

09/819,291

Applicant(s)

OZAKI ET AL.

Examiner

HOAN C. NGUYEN

Art Unit

2871

-- The MAILING DATE of this communication appears n the cover sheet with the c rrespondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____ .
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) 7-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Pri rity under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____ .
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 .
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____ .
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____ .

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Species I (claims 1-6, Figs. 16-32B) in Paper No. 5 is acknowledged.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claim 3 is rejected under 35 U.S.C. 102(b) as being anticipated by Henley (US5459410A).

Henley teaches (Fig. 11a-b) a fault repairing method for a liquid crystal display device, comprising the steps of:

- forming first and second disconnection
- repairing contact holes 76, that have a width larger than a width of a disconnected wiring and a depth to expose an upper surface and both side surfaces of the disconnected wiring respectively, at two locations which are positioned to sandwich a disconnected portion of the disconnected wiring;

- forming a conductive film 78, that is connected electrically to the upper surface and both side surfaces, on inner walls and surfaces of the first and second disconnection repairing contact holes to repair the disconnection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henley (US5459410A) above in view of Yamamoto et al. (US5600460A).

Henley teaches (Figs. 11A-B) a fault repairing method for a liquid crystal display device, comprising the steps of:

- forming first and second disconnection
- repairing contact holes, that have a width larger than a width of a disconnected wiring and a depth to expose an upper surface and both side surfaces of the disconnected wiring respectively, at two locations which are positioned to sandwich a disconnected portion of the disconnected wiring; and
- forming conductive film, that are connected electrically to the upper surface and both side surfaces, on inner walls and surfaces of the first and second disconnection repairing contact holes to repair the disconnection.

Heylay fails to disclose a fault repairing method with forming first and second conductive films, that are connected electrically to the upper surface and both side surfaces, on inner walls and surfaces of the first and second disconnection repairing contact holes to repair the disconnection. wherein

- both the first and second conductive films are formed by a laser CVD method.
- both the first and second conductive films are connected to a pixel electrode.

Yamamoto et al. teach (Fig. 28, abstract), for providing easy and reliable method of repairing, a fault repairing method with forming first and second conductive films, that are connected electrically to the upper surface and both side surfaces, on inner walls and surfaces of the first and second disconnection repairing contact holes to repair the disconnection. wherein

- both the first and second conductive films are formed by a laser CVD method.
- both the first and second conductive films are connected to a pixel electrode.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify a fault repairing method for a liquid crystal display device with limitations in claims 2 and 5 for providing easy and reliable method of repairing.

2. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ukai et al. (US5086347) in view of Imura et al. (US6239856B1).

Ukai et al. teach (Figs. 5 and 6A-B) a fault repairing method for a liquid crystal display device comprising the steps of:

- forming a conductive film 41 over an area located between disconnection end portions 41 of a disconnected wiring by a laser CVD method;
- connecting electrically the conductive film and the disconnection end portions by a laser welding method to repair the disconnection.

Ukai et al. fail to disclose forming a conductive film by a laser CVD method.

Imura et al. teach (col. 7 lines 8-13) forming a conductive film by a laser CVD method for enhancing productivity of correction of the defects,

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify a fault repairing method for a liquid crystal display device with forming a conductive film by a laser CVD method for enhancing productivity of correction of the defects.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Henley (US5459410A) as applied to claims 3 above in view of Imura et al. (US6239856B1).

Imura et al. teach (col. 7 lines 8-13) forming a conductive film by a laser CVD method for enhancing productivity of correction of the defects,

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify a fault repairing method as Henley disclosed for a liquid crystal display device with forming a conductive film by a laser CVD method for enhancing productivity of correction of the defects.

Art Unit: 2871

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:


- Song (US5796449) discloses one repair line forming above a protective layer and one forming below a protective layer.
- Ukai et al. disclose an active liquid crystal display panel having a short-circuit metal layer and welding metal pads for changing the defect of a defective pixel.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAN C. NGUYEN whose telephone number is (703) 306-0472. The examiner can normally be reached on MONDAY-THURSDAY:8:00AM-4:30PM.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0530.

HOAN C. NGUYEN
Examiner
Art Unit 2871

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June 6, 2003


ROBERT H. KIM
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